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Case report

Vesicovaginal fistula, bladder calculus, retained foreign body or all of the above? The unusual presentation of a female with total urinary incontinence



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KEYWORDS

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Abstract

A 78-year-old female with total urinary incontinence was referred to Tygerberg Hospital. On physical exam a firm mass consistent with a stone was palpated along the anterior vagina and confirmed with KUB X-ray and ultrasonography. Under general anesthesia cystolitholapaxy was performed and the vaginal component was removed manually. A foreign body (aerosol cap) was identified in the vagina as the underlying cause. The aerosol cap had eroded through the anterior vaginal wall resulting in a vesicovaginal fistula. A biopsy of the fistulous tract demonstrated granulation tissue with no evidence of malignancy. A discussion of retained foreign bodies causing vesicovaginal fistula, specifically aerosol bottle caps, follows.

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Case presentation

A 78-year-old female was referred to Tygerberg Hospital with a 2–3 year complaint of total urinary incontinence. She did not have any other specific urologic complaints. She had a history of two vaginal births but no prior pelvic surgery. Physical exam was essentially unremarkable except for a firm mass palpated along the anterior vagina consistent with a stone. She could not tolerate a speculum vaginal exam because of the severe pain. Urine culture grew *Klebsiella*, for which appropriate antibiotics were started. Further laboratory studies were normal. A KUB X-ray demonstrated an irregularly shaped calcification within the pelvis (Fig. 1).

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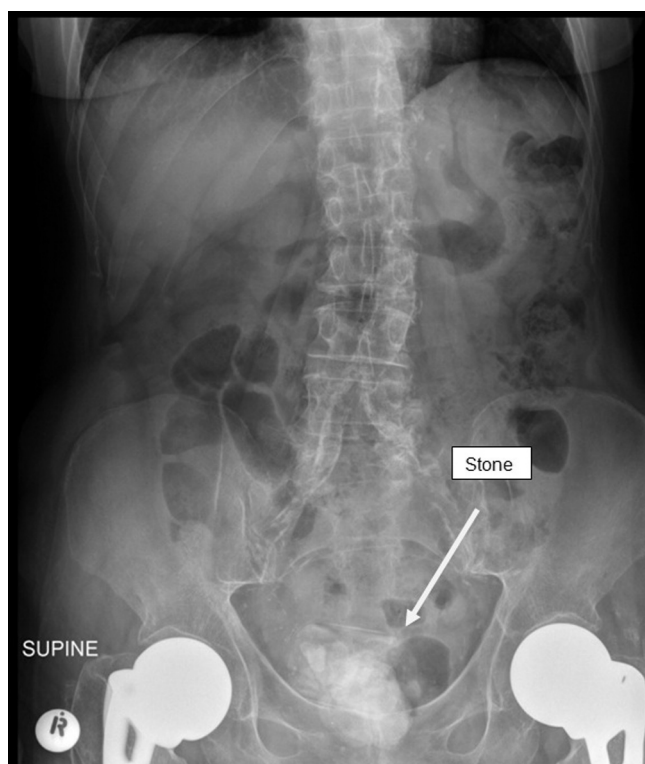


Fig. 1 KUB X-ray showing stone in the pelvis.

Ultrasonography showed the calcification to involve the urinary bladder. Our initial differential diagnosis included a urethral diverticulum that had formed a stone and eroded into the vagina, as well as an underlying urethral or gynecologic malignancy. The patient was then scheduled for a diagnostic cystoscopy with possible vesicolithotomy given the relatively large size of the stone.

Examination was performed under anesthesia and the vaginal mass was confirmed to be an irregularly shaped stone with jagged edges. Cystoscopy showed a smooth bladder stone that appeared to be continuous with the vaginal stone (Fig. 2). We were able to successfully perform cystolitholapaxy by crushing the bladder component of the stone using an Olympus® Stone Punch (Olympus® Corporation, Tokyo, Japan), and the vaginal component removed manually. A foreign body (aerosol cap) was identified in the vagina as the

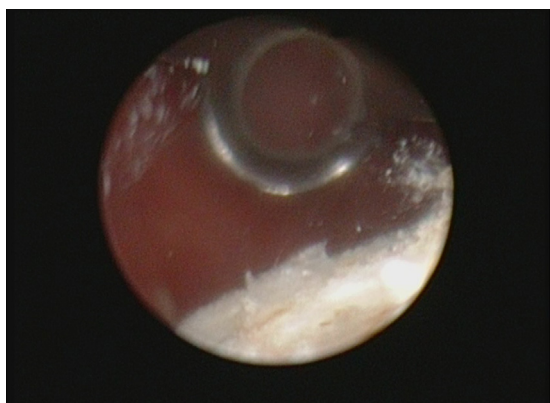


Fig. 2 Endoscopic view of bladder stone managed with Olympus® Stone Punch.

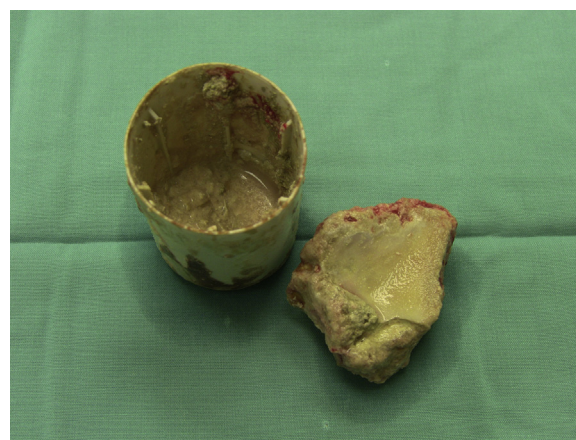


Fig. 3 Surgical specimen: aerosol cap and large piece of stone.

underlying cause (Fig. 3). The aerosol cap had eroded through the anterior vaginal wall resulting in a 2–3 cm vesicovaginal fistula. The rectum was not involved. A biopsy of the fistulous tract demonstrated granulation tissue with no evidence of malignancy. Upon further interview, the patient did not acknowledge nor gave any clear history to explain the presence of the retained foreign body.

Discussion

Retained foreign bodies causing vesicovaginal fistula has been reported in the literature, specifically aerosol bottle caps [1–3]. Contraception and masturbation have been described as reasons for placing an aerosol cap within the vagina [1], but sexual abuse must also be considered as a possibility in these cases. It is also conceivable that elderly patients may use such an object as a makeshift pessary for pelvic organ prolapse.

Evans et al. reported on a vesicovaginal fistula that formed several weeks after the uneventful removal of a bottle cap from a 16-year-old woman. Although there was no fistula identified on initial evaluation she presented weeks later with intermittent leakage, urinary urgency and occasional urge incontinence [2]. It is, therefore, important to carefully assess for fistulae during the initial presentation as well as have close follow up with the patient. Reports of rectovaginal fistulae have also been published related to neglected pessary devices [4].

Clinical suspicion must remain high for unusual causes of vesicovaginal fistula related to retained foreign bodies despite patient denial [5]. However, due to the relative scarcity of this pathology, there are no standard guidelines for which to treat these patients. Removal of vaginal foreign bodies has been managed with abdominal hysterectomy and bilateral salpingo-oophorectomy [3] and laparotomy [6]. We believe our approach to be unique in that the entire stone burden and the aerosol cap were removed endoscopically. Our patient had a transurethral catheter placed as well as vaginal packing post-operatively. As with more common causes of vesicovaginal fistulae, a delayed formal repair is planned [7].

Conflict of interest

The authors declare they have no conflict of interest.

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